Fact Sheet

Aquifer Protection Permit #P-105588
Place ID 23400, LTF 35294
Bella Terra Wastewater Reclamation Facility

The Arizona Department of Environmental Quality (ADEQ) proposes to issue an aquifer protection permit for the subject facility that covers the life of the facility, including operational, closure, and post-closure periods unless suspended or revoked pursuant to Arizona Administrative Code (A.A.C.) R18-9-A213. This document gives pertinent information concerning the issuance of the permit. The requirements contained in this permit will allow the permittee to comply with the two key requirements of the Aquifer Protection Program: 1) meet Aquifer Water Quality Standards at the Point of Compliance; and 2) demonstrate Best Available Demonstrated Control Technology (BADCT). The purpose of BADCT is to employ engineering controls, processes, operating methods or other alternatives, including site-specific characteristics (i.e., local subsurface geology) to reduce discharge of pollutants to the greatest degree achievable before they reach the aquifer, or to keep pollutants from reaching the aquifer.

I. FACILITY INFORMATION

Name and Location

Name of Permittee	Michael A. Zito
Mailing Address:	BySynergy L.L.C. 15 Cultural Park Place, Suite # 2 Sedona, AZ 86336
Facility Name and Location:	Bella Terra Wastewater Reclamation Facility (WRF) Red Rock Loop Road Sedona, AZ 86336

Regulatory Status

This is a new facility. An application for an Aquifer Protection Permit was received on January 31, 2005.

Due to the substantial number of comments received during the two public notice periods, public hearings were held in Sedona, Arizona on July 20, 2006 and November 1, 2006. After a review of the comments received during the public hearings and during the public comment periods, several changes have been made to the original permit. These changes are further discussed below in Section VIII.

Facility Description

The permittee is authorized to collect, treat and dispose a maximum average monthly flow of 0.02491 million gallons per day (MGD) of domestic wastewater within the Bella Terra WRF. The

WRF consists of: a flow equalization basin, an aeration basin, an anoxic basin, a reaeration and clarifier basin, a sand filter, a sludge holding tank, chemical feed capability for coagulating agents, and an ultraviolet disinfection (UV) system. The WRF does not include headworks because each dwelling within the sub-division will include a high head grinder and low-pressure pump station to grind solids prior to discharging wastewater to the sewer collection system and the WRF.

Effluent will be disposed into three separate disposal fields (Fields 1, 3, and 4) using a subsurface irrigation system; and may also be used for beneficial reuse under any future valid reclaimed water permit. The disposal fields will be operated in series rotation. The WRF will produce reclaimed water meeting Class A+ Reclaimed Water Quality Standards. The effluent may be reused for any allowable use in that class under any future valid Reclaimed Water Permit (A.A.C. R18-9-701 et seq). The facility owner has indicated it will apply for a reclaimed water permit to irrigate an area that will utilize 10,000 gallons per day (gpd) of the effluent in order to meet the disposal rate of 0.219 gallon per day per square foot required in the permit.

All sludge including screenings, grit and scum will be hauled off-site for disposal in accordance with State and Federal regulation.

In addition to the APP conditions pertaining to treatment and disposal of sewage sludge, the permittee must also comply with the requirements for sewage sludge disposal in 40 Code of Federal Regulations (CFR) Part 503 and 18 A.A.C. 9, Article 10.

The WRF includes the following permitted discharging facilities (see attached site map):

Facility	Description	Latitude	Longitude
WRF	Consists of flow equalization basin, aeration basin, anoxic basin, reaeration basin, clarifier, sludge holding tank, sand filter and UV disinfection	34°49'39" N	111°48'44" W
Effluent Disposal Field #1	Subsurface drip disposal system	34°49'40.4" N	111°48'40.3" W
Effluent Disposal Field #2	Deleted due to location in floodplain		
Effluent Disposal Field #3	Subsurface drip disposal system	34°49'38.6" N	111°48'50.5" W
Effluent Disposal Field #4	Subsurface drip disposal system	34°49'36.0" N	111°48'53.9" W

Amendment Description

Not Applicable.

II. BEST AVAILABLE DEMONSTRATED CONTROL TECHNOLOGY (BADCT)

The WRF is designed to meet the treatment performance criteria for new facilities as specified in Arizona Administrative Code R18-9-B204. Pathogen removal is set at non-detect for 4 out of 7 samples per (A.A.C. R18-9-B204.B.4. b) because the facility is located in an area with karstic bedrock and near Oak Creek, a "unique" water in Arizona per A.A.C. R18-11-112.

All WRF units will be constructed of Fiberglass or stainless steel and will meet the requirements of A.A.C. R18-9-B204(B)(7).

Engineering Design

The WRF was designed as per the design report prepared, stamped, dated and signed by Evan H. Curtis, P.E. (Professional Engineer), Santec Corporation, Inc. dated January 26, 2005 and subsequent sealed submittals that served as additional amendments to that report. These are:

Wastewater Treatment Plan Design Report and Submittal for Bella Terra WWTP prepared by Santec Corportion and Curtis Engineering, sealed by Evan H. Curtis, P.E., January 26, 2005.

Design Reports for Bella Terra on Oak Creek prepared by Shepard-Wesnitzer, Inc., sealed by Arthur H. Beckwith, P.E., January 6, 2005.

Bella Terra on Oak Creek Construction Plans, Grading, Drainage, and Utilities, prepared by Shepard-Wesnitzer, Inc., sealed by Arthur Beckwith, P.E., January 7, 2005. Drawing set of 26 pages.

Response to Administrative Completeness Review for Bella Terra WWTP prepared by Santec Corporation and Curtis Engineering, sealed by Evan H. Curtis, P.E., April 12, 2005.

Wastewater Treatment Plant Revised Submittal for Bella Terra WWTP, prepared by Santec Corporation, sealed by Evan H. Curtis, P.E., September 12, 2006.

Letter dated September 26, 2006 from Evan H. Curtis, Curtis Engineering for Santec Corporation, to Maribeth Greenslade, ADEQ, with attachments, sealed by Evan H. Curtis, P.E, September 26, 2006.

Equalization Basin

Flow equalization basin is for an in-line equalization unit. Due to the estimated variations in the influent flow rate an in-line unit will provide better flow distribution over a 24-hour period than a side-line equalization unit.

Aeration/Anoxic Basin

Sewage is pumped to the aeration basin from the flow equalization basin. The outlet from the aeration basin is through a gravity overflow pipe to the denitrification chamber. The outlet from

the denitrification basin passes flow to the reaeration basin. The total freeboard of the aeration basin shall be a minimum of 2-foot 6-inches. The supernatant is pumped from the sludge holding tank to the aeration basin.

Secondary Clarifier

The cylindrical design of the vessel provides smooth transitions from wall to floor to prevent the formation of dead-zones where solids can accumulate in the basin. A longitudinal fiberglass reinforced plastic baffle shall maintain separation between reaeration and secondary clarification.

Chemical Feed

The coagulant metering pump provides a capacity of at least 1.5 times the design feed rate and is rated good or better for chemical resistance and corrosion to the coagulant solution. The coagulating agent can be added to meet the Reclaimed Water Class A+ turbidity standards.

Filtration System

The filtration system consists of a lift station, feed control system, and tertiary filter. The tertiary filter is of a moving bed design that provides continuous operation without the need for a backwash cycle. Influent enters through the center of the filter through a central feed chamber and flows through the deep media bed before exiting the filter. The sand bed is a minimum of 7 feet in height and provides a filtrate quality of less than 10 mg/L suspended solids.

Disinfection System

The Ultraviolet (UV) disinfection system is of closed channel, stainless steel construction providing a dosage of approximately 86,000 micro-Watt-seconds per square centimeter ($\mu ws/cm^2$). The UV system will be duplex units providing full redundancy (1 unit duty, 1 unit standby) with automatic switchover if UV transmittance falls below 65%.

Sub-surface Irrigation Disposal System

The subsurface drip disposal system consists of three effluent disposal fields; Field 1, Field 3, and Field 4. The drip tubing is buried approximately one foot below the land surface. The applicant originally proposed Field 1 as the primary disposal field and Field 2 as a back-up as required by BADCT. Field 2 has been deleted, and Fields 3 and 4 were added in response to comments received at the public hearing held on July 20, 2006. The three effluent disposal fields will be operated with alternate application to Field 1 (34,000 sf) then to Field 3 (17, 000 sf), then to Field 1, then to Field 4 (34,000 sf), and continuing the rotation. The application rate to the disposal fields is limited by Section 4.0, Table IA, to 0.219 gpd/sf, thus minimizing the potential of any effluent discharge to the aquifer, Carroll Canyon Wash or Oak Creek. In order to comply with the 0.219 gpd/sf effluent application rate, the facility will need to establish

reuse of Class A+ reclaimed water at a rate of 10,000 gpd at full flow capacity of 24,910 gallons per day.

According to the designer, the design of the disposal system enhances evapotranspiration and irrigation of native vegetation at the effluent disposal sites.

The consumptive use for the Bella Terra site, assuming turf irrigation, is estimated at 53 inches per year or 0.09 gallons per day per square foot (gpd/sf). The effluent applicaton rate is limited by permit Section 4.0, Table I, to 0.219 gpd/sf. To determine the amount of effluent available for percolation, the consumptive use (0.09 gpd/sf) can be subtracted from the application rate (0.219 gpd/sf), providing an estimate of 0.129 gpd/sf percolation.

Setback Requirements

The WRF meets the required setback of 50 feet, for the full build-out WRF design capacity of 24,910 gpd.

No schools or daycare centers are located within the 50 foot setback for the WRF. The nearest public school is Sedona Red Rock High School which is located about 2 miles north at Highway US 89A. The Starseed and Urantian Schools of Melchizedek for Children and Teens has notified ADEQ that their daycare program, home school cooperative and classes are located at homes in the Red Rock Loop Road area, some within ½ mile of the facility.

ADEQ's Learning Sites Policy indicates that permit applications will be evaluated to ensure that children at learning sites are protected. In response to public concerns regarding the storage of chlorine at the facility and the protection of children in the area, the Applicant has changed the disinfection method from chlorination to ultraviolet disinfection. The application meets the Aquifer Protection Permit requirements for protection of groundwater, BADCT, zoning, and technical and financial capability requirements. The application has met the criteria of the policy that children at learning sites will be protected.

No drinking water wells are located within 100 feet of the effluent disposal areas.

Noise control requirements are met by complying with the required setback distance. All treatment units upstream of the filter will be covered with concrete or aluminum covers and air scrubbers will be provided for odor control. All pumps, blowers and electrical equipment will be housed within buildings for noise control.

Facility Monitoring and Reporting Requirements

All permitted facilities at the WRF will be inspected pursuant to Table III of the permit. Exceedances trigger compliance actions in accordance with the Contingency Plan listed in Section 2.6 of the permit.

Slope Stability of Disposal Field 1

The average ground slope across Disposal Field 1 toward Carroll Canyon Wash is calculated as 4.55% (vertical:horizontal ratio is 1:22). The soils are described as fine loamy sand, with angular sand particles and low clay content. The angle of internal friction, or resistance to shearing, for this type of soil is great enough to hold a stable slope at the low slope angle of the disposal area.

The interface between the sandy soil and the fractured underlying bedrock is not likely to create a soil-rock slip plane. The low clay content soil will not accumulate and hold sufficient moisture to provide the lubrication for slippage along the interface.

The potential for mud flow phenomenon is very low because the sandy soil does not have the clay content to create the conditions typically associated with mud flows. The sandy soil is well drained and holds only a modest amount of capillary water. These properties make it very unlikely that mud flows would occur.

III. HYDROGEOLOGIC SETTING

Hydrogeologic information was derived from a hydrogeologic report that was prepared by William G. Wellendorf, R.G., Southwest Ground-water Consultants, Inc. The report is titled "Hydrogeology Investigation: Schuerman Ranch, Yavapai County, Arizona" and dated April 2, 2002. Additional information was derived from ADEQ and ADWR databases and reports.

The facility is located in the Verde Groundwater Basin of the Verde Watershed within the Transition Zone or Central Highlands Zone; which is the transition zone between the Colorado Plateau and Basin and Range Physiographic Provinces. This region is characterized by rugged mountains separated by several basins with deformed igneous and metamorphic rocks predominant. Geologic units in the area consist of, from the surface downward, the Supai Formation, Redwall Limestone, Martin Formation, Tapeats Sandstone, and Proterozoic metamorphic basement rocks. The Middle Member of the Supai Formation and the Redwall Formation are highly fractured with karstic topography which has caused sinkholes to develop in the area.

Three aquifers are present near or beneath the facility. A localized aquifer associated with alluvial deposits is present within the channel of Oak Creek and associated tributaries (including Carroll Canyon Wash). Two regional aquifers (Supai and Redwall Aquifers) are located under partially confined to confined conditions in limestones and sandstones. Groundwater in these aquifers may be found primarily along fractures, bedding planes and caverns created by karstic topography. Formation contacts and faults can act as impediments or conduits to flow, causing local deviations to the groundwater flow direction. Generally, groundwater in all the aquifers is flowing southwest, towards the Verde River. Groundwater within the Alluvial Aquifer, associated with Oak Creek, is generally less than 20 feet below the ground surface (bgs). Groundwater in the Supai Aquifer is reported to be first encountered at depths of about 150 feet bgs with the potentiometric surface found at depths of about 70 to 85 feet. Depths to groundwater in the Redwall Aquifer are reported to be between 300 and 400 feet bgs.

IV. STORM WATER/SURFACE WATER CONSIDERATIONS

Storm water / surface water considerations included whether the facility was located within the 100-year flood plain and whether the discharge had the potential to impact the adjacent surface water drainages downgradient of the WRF.

The site is located along Carroll Canyon Wash, an intermittent tributary to Oak Creek, within Oak Creek subbasin of the Verde River surface water basin. Carroll Canyon Wash has Surface Water Quality Standards (SWQS) applicable to the designated uses of warm water aquatic and wildlife ($A\&W_w$), full body contact (FBC), and fish consumption (FC). Surface water flows southward in Carroll Canyon Wash to the confluence with Oak Creek, which is located about 1000 feet downstream of the effluent disposal site.

Oak Creek is a perennial stream which flows generally southwest. Oak Creek is designated as a unique water (A.A.C. §R18-11-112.E.2) in the State of Arizona. This designation has placed additional limitations for total nitrogen, phosphorous, chromium, turbidity, and pH on the SWQS in addition to the surface water use designations for A&Ww, FBC, drinking water source (DWS), FC, agriculture–irrigation (AgI), and agriculture-livestock watering (AgL).

An irrigation ditch currently diverts water from Oak Creek through the proposed subdivision for irrigation of several meadows for grazing and hay. The ditch will remain operational with surface water being used to irrigate undeveloped lots, rights-of-ways, reserve disposal field, etc. Any unused water will be returned to the ditch.

The WRF is not located in a 100-year flood plain. Effluent Disposal Field 1 is located approximately 200-300 feet east of the WRF and is adjacent to, but outside of the 100-year flood plain for Carroll Canyon Wash. Effluent Disposal Fields 3 and 4 are located between 400 and 800 feet west of the WRF and more than 600 feet away from any flood plain (Carroll Canyon Wash and/or Oak Creek).

The possibility that effluent from Disposal Field 1 will travel laterally toward Carroll Canyon Wash was evaluated. The 24 soil borings at the site were completed to depths ranging from 24 to 141 inches. Soils are typically described as loamy sand with cobbles throughout the profile, becoming larger and more frequent with depth. The percolation rate for the soils was determined to be approximately 12 minutes per inch. The estimate for the amount of effluent available for percolation from the Disposal Fields is 0.129 gpd/sf at full plant capacity (See discussion under Section II. BADCT, above). The application rate for these site specific soil conditions reduces the potential for percolation to groundwater or lateral migration towards surface water.

Test holes indicate that the depth to bedrock varies at Disposal Field 1 from 2' to 8' with bedrock outcrops at locations along Carroll Canyon Wash and to the southeast of Disposal Field 1. The outcrops are fractured with the underlying sandstone also thought to be fractured due to the variation in depths to bedrock in the test holes. The fracturing of the bedrock may allow downward flow of effluent rather than lateral flow to Carroll Canyon Wash.

Monitoring of nearby drainages was not included as a permit condition because the facility does not directly discharge to any surface water. However, address public concern that the effluent could migrate laterally to surface water, the permit requires installation and monitoring of a Sentinel Well as described in Section VI, Compliance Schedule.

V. COMPLIANCE WITH AQUIFER WATER QUALITY STANDARDS

The permittee is required to show that pollutants discharged will not cause or contribute to a violation of aquifer water quality standards at the POC. The location of the points of compliance (POCs) which show compliance with aquifer water quality standards is determined by an analysis of the pollutant management area (PMA), the discharge impact area (DIA), and locations and uses of groundwater wells in the area. The POC locations are selected to protect uses of groundwater, to verify BADCT performance, and to allow early detection of potential impact from the WRF discharges.

The pollutant management area (PMA) is described in ARS §49-244 as the limit projected in the horizontal plane of the area on which pollutants are or will be placed. The PMA includes horizontal space taken up by any liner, dike or other barrier designed to contain pollutants in the facility. If the facility contains more than one discharging activity, the PMA is described by an imaginary line circumscribing the several discharging activities.

Two PMAs have been designated for this facility. A line circumscribing Effluent Disposal Field 1 defines one PMA. The second PMA is defined by a line circumscribing the WRF and Effluent Disposal Fields 3 and 4.

The discharge impact area (DIA) is defined by ARS §49-201.13. The DIA means the potential areal extent of pollutant migration, as projected on the land surface, as the result of a discharge from a facility.
The DIAs for the WRF and the effluent disposal areas are similar in shape and size to the PMAs because the WRF is constructed of fiberglass tanks which are leak tested after installation, prior to use, and are not expected to leak. The effluent will be discharged to a subsurface drip disposal system that will enhance evapotranspiration and be used to irrigate vegetation at the site.

Five wells are located on-site – four are used for domestic water supply, and the other will be used for irrigation or will be abandoned. Three of these wells are located downgradient of Effluent Disposal Field 1. Depth to groundwater in the on-site wells ranges from 70 to 84 feet below the ground surface (bgs) and groundwater appears to be derived from the partially confined Supai aquifer.

Monitoring and Reporting Requirements

Effluent monitoring is required for this facility as follows.

Sampling Point Number	Descriptive Location	Latitude	Longitude
1	Discharge Point from the WRF immediately after the Ultraviolet Disinfection Unit	34°49'39"N	111°48'44"W

Parameter	Effluent
Flow	Daily
Application rate	Daily
pathogens: *E. coli*	Daily
nutrients: nitrate, nitrite, TKN	Monthly
inorganic chemicals: metals, cyanide, fluoride as listed in AAC R18-9-11-406.B	semi-annually
VOCs and semi-VOCs per AAC R-18-11-406.C	Annual

Discharge limits (DLs) are set equivalent to the applicable AWQS. ALs are set at 80% of the DLs except for Nitrogen, which is set at a lower value.

Point(s) of Compliance (P.O.C.)

Three hazardous/non-hazardous POCs have been designated for this facility as follows:

POC #	Descriptive Location	Latitude	Longitude
1	Conceptual location for shallow alluvium, located ~10 feet southeast of Effluent Disposal Field #1.	34° 49' 39.2" N	111° 48' 38.4" W
2	Conceptual location for regional aquifer, located ~10 feet southwest of Effluent Disposal Field #1	34° 49' 40.2" N	111° 48' 42.2" W
3	Conceptual location for regional aquifer located ~10 feet southwest of Effluent Disposal Field #4	34° 49' 35.7" N	111° 48' 55.1" W

Groundwater monitoring is not required at the POC locations except as a contingency action. However, monitoring will be conducted at the Sentinel Well as described in Section VI, Compliance Schedule, below.

The Director may designate additional monitoring and points of compliance if information on groundwater gradients or groundwater usage indicates the need.

VI. COMPLIANCE SCHEDULE

The permit compliance schedule requires installation of a well between Disposal Field 1 and Carroll Canyon Wash, for monitoring for the presence and quality of water at the alluvium/bedrock interface. Samples from this "Sentinel Well" will be analyzed for nitrogen species. Ambient monitoring will be required prior to discharge to Disposal Field 1 to establish ambient conditions. After discharge to Disposal Field 1 begins, periodic sampling will be required to monitor for any changes in conditions from the ambient conditions. The goal of implementing this monitoring system is to establish an early warning system and to demonstrate compliance with Narrative Aquifer Water Quality Standards which prohibit a discharge to groundwater from causing or contributing to a violation of a surface water standard. The surface water quality standard for Total Nitrogen on Oak Creek is 1.0 mg/L based on an annual mean and a single sample maximum of 2.5 mg/L.

The permit compliance schedule requires the permittee to submit a financial assurance mechanism to increase the financial capability demonstration by $600,000.00 and to address concerns raised in the public comment period about the adequacy of the financial capability.

VII. OTHER REQUIREMENTS FOR ISSUING THIS PERMIT

Technical Capability

The applicant has demonstrated the technical competence necessary to carry out the terms and conditions of the permit in accordance with A.R.S. § 49-243(N) and A.A.C. R18-9-A202(B).

The WRF was designed as per the design report prepared, stamped, dated, and signed (sealed) by Mr. Evan H. Curtis, P.E. (Professional Engineer), Santec Corporation, Inc., dated January 26, 2005, and subsequent sealed submittals that served as additions to the design report. A certified operator will be retained for the operation and maintenance of the WRF.

ADEQ requires that appropriate documents be sealed by an Arizona registered geologist or professional engineer. This requirement is a part of an on-going demonstration of technical capability. The permittee is expected to maintain technical capability throughout the life of the facility.

Financial Capability

The BySynergy, LLC has demonstrated the financial responsibility necessary to carry out the terms and conditions of the permit in accordance with A.R.S. § 49-243(N) and A.A.C. R18-9-A203. The permittee is required to maintain financial capability throughout the life of the facility.

The permittee submitted a certificate of deposit for $66,458.00. The estimated dollar amount demonstrated for financial capability is $31,458.00 for closure costs and $35,000.00 for operation and maintenance costs.

As stated above, the permit compliance schedule requires the permittee to submit a financial assurance mechanism to increase the financial capability demonstration by $600,000.00.

Zoning Requirements

The Bella Terra WRF has been properly zoned for the permitted use and the permittee has complied with all Yavapai County zoning ordinances in accordance with A.R.S. § 49-243(O) and A.A.C. R18-9-A201(A)(2)(c).

VIII. ADMINISTRATIVE INFORMATION

Public Notice (A.A.C. R18-9-108(A))

The public notice is the vehicle for informing all interested parties and members of the general public of the contents of a draft permit or other significant action with respect to a permit or application. The basic intent of this requirement is to ensure that all interested parties have an opportunity to comment on significant actions of the permitting agency with respect to a permit application or permit.

Public Comment Period (A.A.C. R18-9-109(A)) and Public Hearing (A.A.C. R18-9-109(B))

The aquifer protection program rules require that permits be public noticed in a newspaper of general circulation within the area affected by the facility or activity and provide a minimum of 30 calendar days for interested parties to respond in writing to ADEQ. After the closing of the public comment period, ADEQ is required to respond to all significant comments at the time a final permit decision is reached or at the same time a final permit is actually issued.

There have been two formal public comment periods and two public hearings for the Bella Terra WRF aquifer protection permit (APP). The first formal public comment period began on May 5, 2006 with the publication, in accordance with Arizona Administrative Code (A.A.C.) R18-9-109 (A), of the preliminary decision to issue an aquifer protection permit (APP). This first formal public comment period ended June 5, 2006. The first public hearing was held on July 20, 2006 in accordance with A.A.C. R18-9-109(B). The public comments received during the first formal public comment period and first public hearing were considered by the Arizona Department of Environmental Quality (ADEQ) and a second preliminary decision to issue a revised APP, was public noticed on September 29, 2006. The revised APP was issued to address the comments received during the first formal comment period and public hearing. The second preliminary decision to issue the revised APP and second formal public comment period supersedes the first preliminary decision and formal public comment period.

The second formal public comment period, for the revised APP, began on September 29, 2006 and ended November 1, 2006. Responses to comments received during the second formal public comment period, and the second public hearing held on November 1, 2006, are included in the responsiveness summary dated February 1, 2007. The revised APP public noticed on September 29, 2006, has been further revised based on the comments from the second public comment period and second public hearing.

Results of Comments on the Draft Permit

After a review of the comments received during the public hearings and during the public comment periods the following changes have been made to the original permit.

1. The Reclaimed Water Classification has been changed from Class B+ to Class A+ to ensure the absence of E. coli in the reclaimed water.

2. The method of disinfection has been changed from chlorination/de-chlorination to Ultra Violet (UV) Disinfection, eliminating any potential of generating Trihalomethanes (THMs) and to address concerns about potential impacts to children living, learning and playing within ½ mile of the facility.

3. Two disposal fields, Field 3 and Field 4, have been added to further reduce the application rate of the treated effluent and further minimize any impact to the aquifer and to surface waters.

4. The reserve disposal field (Field 2) located in the flood plain has been removed from the design to address concerns about its location in the designated 100-year floodplain.

5. Monitoring and reporting will be required for the Sentinel Well to be an early warning system and to ensure protection of surface water quality.

6. A discharge limit has been added which limits the disposal rate to the effluent disposal fields to 0.219 gpd/sf to further reduce the application rate of treated effluent and to further minimize or eliminate any impact to the aquifer and surface waters.

7. Monitoring and reporting will be required to verify the disposal field components are operating as designed to address the concern about clogging of the drip irrigation system.

8. An additional financial assurance mechanism will be required to increase the financial capability demonstration by $600,000.00 and to address concerns raised in the public comment period about the adequacy of the financial capability.

IX. ADDITIONAL INFORMATION

Additional information relating to this permit may be obtained from:

Arizona Department of Environmental Quality
Attn: Maribeth Greenslade
Water Quality Division - APP and Reuse Unit,
1110 West Washington Street, Mail Code 5415B-3
Phoenix, Arizona 85007
Phone: (602) 771-4578